MATERIALS AND MANUFACTURING DIRECTORATE

Collaboration Opportunities

Dr. Charles E. Browning
Director, Materials and Manufacturing Directorate

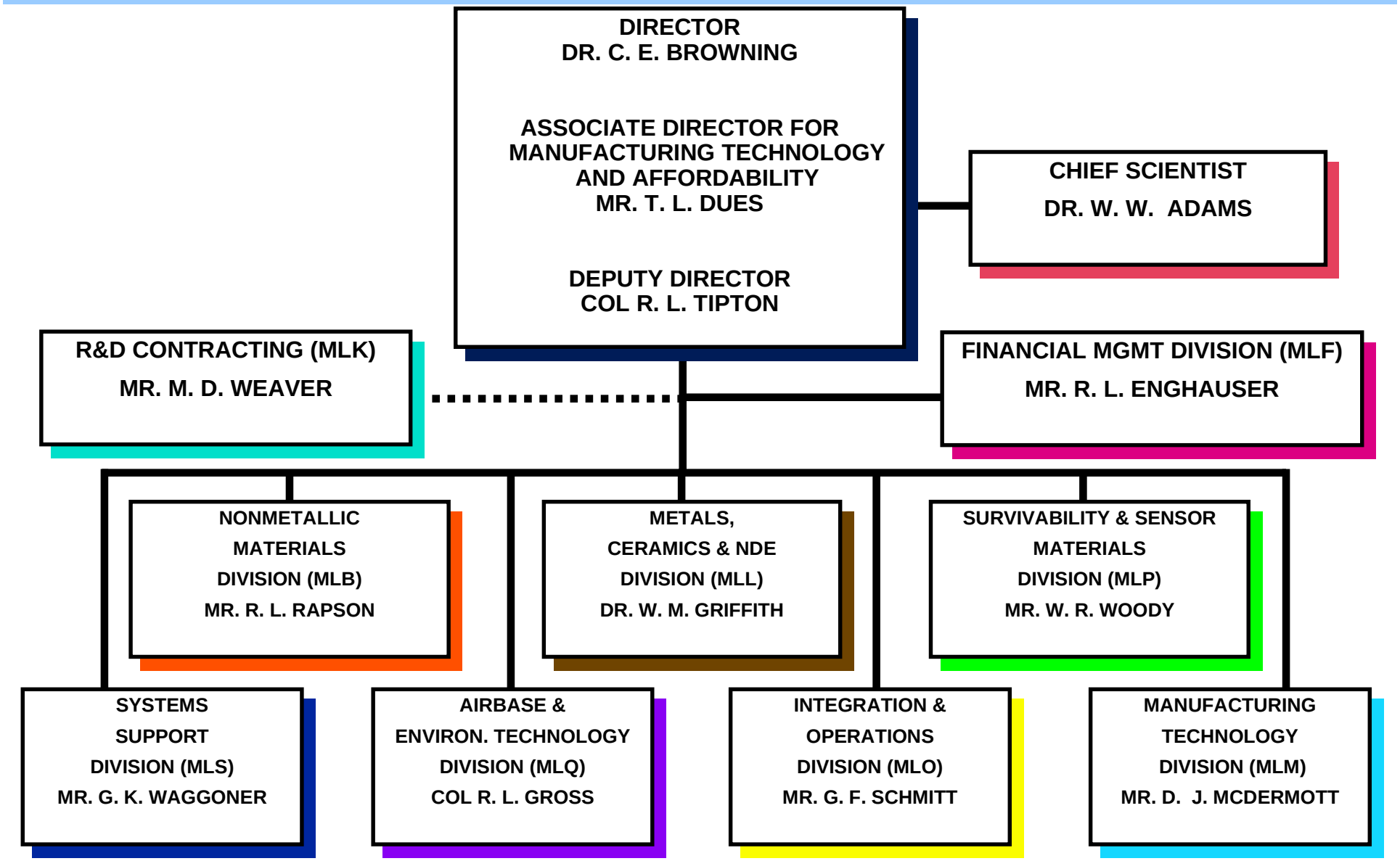
14 February 2000

ML MISSION/VISION

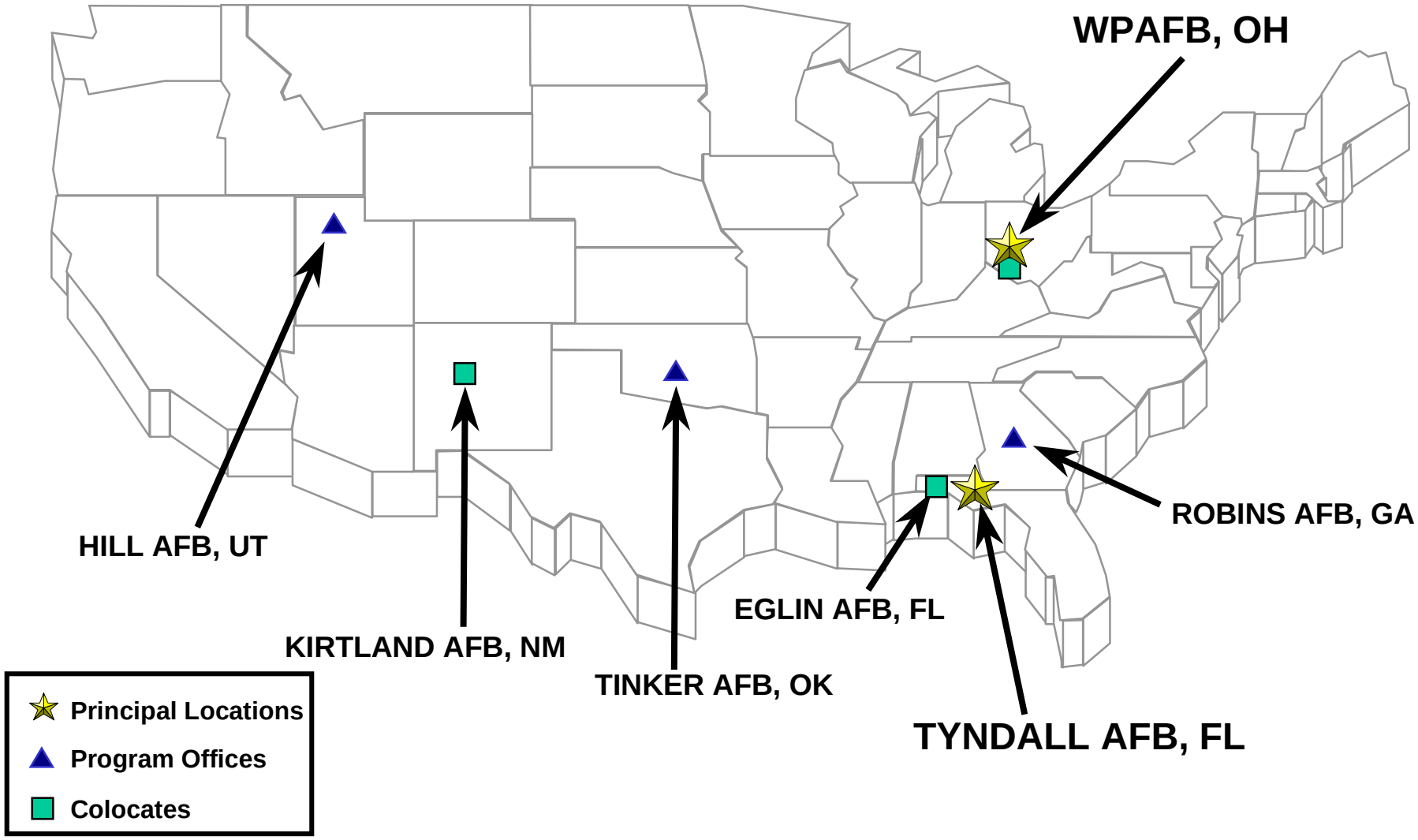
Plan and execute the USAF program for materials and manufacturing in the areas of basic research, exploratory development, advanced development and industrial preparedness. Provide responsive support to Air Force product centers, logistics centers, and operating commands to solve system and deployment related problems and to transfer expertise.

Aerospace materials and manufacturing leadership for the Air Force and the nation.

ORGANIZATION



OPERATING LOCATIONS

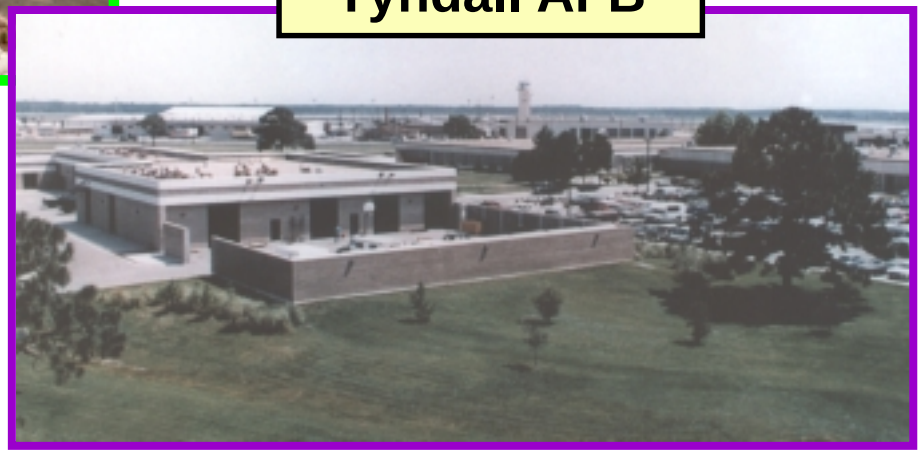


FACILITIES

Wright-Patterson AFB

257,000 Net Square Feet
200 Lab Modules

Tyndall AFB



128,000 Net Square Feet
15 Lab Modules
Test Sites

FACILITIES

Laser Deposition Tribology Laboratory
Molecular Beam Epitaxy (MBE) Laboratory
Optical Measurements Laboratory
Elastomers Laboratory
Fluid and Lubricant Development and Characterization Lab
Opto-Electronic Polymer Physics Laboratory
SCEPTRE Facility
Mechanics of Composites Test Laboratory
Morphology Laboratory
Molecular Modeling Laboratory
Polymer Synthesis Laboratory
Polymer Processing and Characterization Laboratory
Composites Processing Laboratory
Ceramic Composite Research Laboratory
Experimental Materials Processing Laboratory
High Temperature Materials Laboratory
Materials Characterization Facility
Metallurgical Research Laboratory
Materials Behavior Research Laboratory
Materials Directorate NDE In-House Research Laboratory
X-Ray Computed Tomography Facility
Electron Optics Laboratory
Laser Hardened Materials Evaluation Laboratory I
Laser Hardened Materials Evaluation Laboratory II
Analytical Support Laboratory
Electronic Failure Analysis Laboratory
Failure Analysis Laboratory
Mach 1.2 Rain Erosion Research Facility
Materials Compatibility/Coatings Research Facility
Systems Support Nondestructive Inspection Laboratory
Engineering and Design Data Evaluation Laboratory
Product Affordability Realization Testbed
Coatings/Corrosion Research Laboratory
High Cycle Fatigue Laboratory

Check out the AFRL website
www.afrl.af.mil
for detailed information on all of our unique facilities

WORKFORCE

GOVERNMENT(AF)

	TOTAL	MS	PhD
SCIENTISTS & ENGINEERS	**340**	**114**	**106**
TECHNICIAN	**17**	**-**	**-**
OTHER (SUPPORT)	**97**	**-**	**-**
PK/SK	**13**	**-**	**13**
	467	**114**	**119**
PERCENT OF GOVT. S&E WORKFORCE (353)		32%	34%

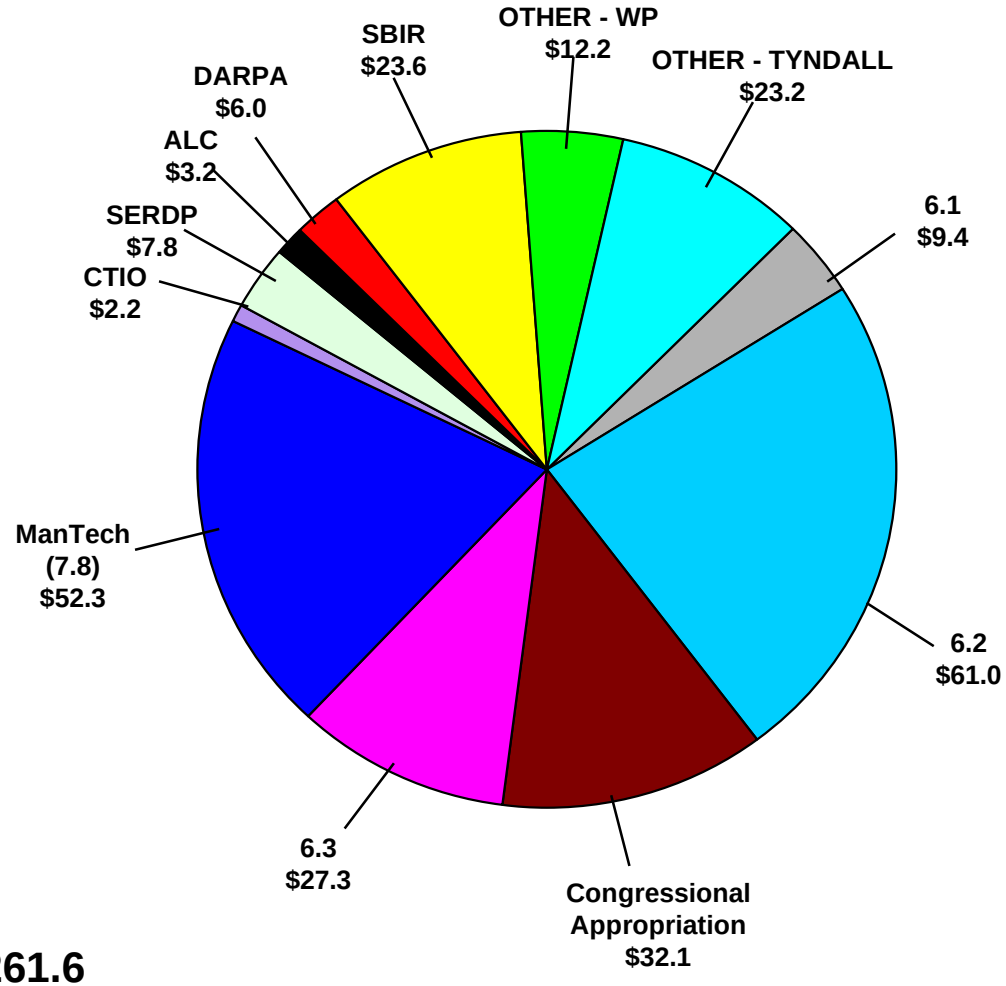
NONGOVERNMENT (Contracted)

NRC POST DOCTORATE FELLOWS	**12**	**-**	**12**
ML VISITING SCIENTIST PROGRAM	**25**	**5**	**20**
INTERGOVERNMENTAL PERSONNEL ACT	**6**	**-**	**6**
ON-SITE CONTRACTOR PROFESSIONAL S&E	**213**	**87**	**106**
ON-SITE CONTRACTOR SUPPORT/TECHNICIAN	**210**	**6**	**1**
SOCHE (INCLUDES 2 CO-OP)	**62**	**-**	**-**
	528	**98**	**145**
	995	**212**	**264**
PERCENT OF S&E WORKFORCE (609)		35%	43%

As of 30 Sep 99

MATERIALS & MANUFACTURING DIRECTORATE FY 00 REVENUE

$ in Millions



AFRL/ML Total $261.6

CORE TECHNOLOGY AREAS

- Polymers
- Metals
- Organic Matrix Composites (OMCs)
- Nondestructive Evaluation (NDE)
- Ceramics
- Tribology/Coatings
- M&P for Sensors
- Laser Hardened Materials (LHM)
- Manufacturing Technology
- Systems Support
- Air Expeditionary Forces (AEF) Technologies

POTENTIAL COLLABORATION AREAS

- Multi-functional Materials
- Self-inspection Capabilities
- Nanostructured Materials
- Atomic Engineering
- Virtual Prototyping of M&P
- Bioengineering
- Computationally-derived Structures
- Virtual Databases

KEY ML STW-21 POCs

CORE TECHNOLOGY AREAS AND LEADERS

#	TITLE	LEADER	ORG	PHONE #
1	Polymers	Dr. Robert Evers	AFRL/MLBP	937-255-9158
2	Metals	Ms. Kathy Stevens	AFRL/MLLM	937-255-1305
3	Organic Matrix Composites	Mr. Scott Theibert	AFRL/MLBC	937-255-9070
4	Nondestructive Evaluation	Dr. Jim Malas	AFRL/MLLP	937-255-9802
5	Ceramics	Dr. Alan Katz	AFRL/MLLN	937-255-1351
6	Tribology and Coatings	Mr. Steve Szaruga	AFRL/MLBT	937-255-9064
7	Materials & Processes for Sensors	Mr. Bob Denison	AFRL/MLPO	937-255-4474 x3250
8	Laser Hardened Materials	Maj Bill Cowan	AFRL/MLPJ	937-255-3808 x3150
9	Manufacturing Technology	Mr. Dan McDermott	AFRL/MLM	937-255-3300
10	Systems Support	Ms. Kristine Tittle(acting)	AFRL/MLSC	937-656-9143
11	Air Expeditionary Force Technologies	Mr. Stan Strickland	AFRLMLQP	850-283-6326

ML STW-21 POC

Mr. George Schmitt, AFRL/MLO, 937-656-9209


AIR FORCE RESEARCH LABORATORY